09817744

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NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2		"Ask CAS" for self-help around the clock
NEWS 3	Jun 03	New e-mail delivery for search results now available
NEWS 4	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 5	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS 6	Aug 26	Sequence searching in REGISTRY enhanced
NEWS 7	Sep 03	JAPIO has been reloaded and enhanced
NEWS 8	Sep 16	Experimental properties added to the REGISTRY file
NEWS 9	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS 10	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS 11	Oct 24	BEILSTEIN adds new search fields
NEWS 12	Oct 24	Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 13	Nov 18	DKILIT has been renamed APOLLIT
NEWS 14	Nov 25	More calculated properties added to REGISTRY
NEWS 15	Dec 04	CSA files on STN
NEWS 16	Dec 17	PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS 17	Dec 17	TOXCENTER enhanced with additional content
NEWS 18	Dec 17	Adis Clinical Trials Insight now available on STN
NEWS 19	Jan 29	Simultaneous left and right truncation added to COMPENDEX, ENERGY, INSPEC
NEWS 20	Feb 13	CANCERLIT is no longer being updated
NEWS 21	Feb 24	METADEX enhancements
NEWS 22	Feb 24	PCTGEN now available on STN
NEWS 23	Feb 24	TEMA now available on STN
NEWS 24	Feb 26	NTIS now allows simultaneous left and right truncation
NEWS 25	Feb 26	PCTFULL now contains images
NEWS 26	Mar 04	SDI PACKAGE for monthly delivery of multifile SDI results
NEWS 27	Mar 20	EVENTLINE will be removed from STN
NEWS 28	Mar 24	PATDPAFULL now available on STN
NEWS 29	Mar 24	Additional information for trade-named substances without structures available in REGISTRY
NEWS 30	Apr 11	Display formats in DGENE enhanced
NEWS 31	Apr 14	MEDLINE Reload
NEWS 32	Apr 17	Polymer searching in REGISTRY enhanced
NEWS 33	Jun 13	Indexing from 1947 to 1956 added to records in CA/CAPLUS
NEWS 34	Apr 21	New current-awareness alert (SDI) frequency in WPIDS/WPINDEX/WPIX
NEWS 35	Apr 28	RDISCLOSURE now available on STN
NEWS 36	May 05	Pharmacokinetic information and systematic chemical names added to PHAR
NEWS 37	May 15	MEDLINE file segment of TOXCENTER reloaded
NEWS 38	May 15	Supporter information for ENCOMPPAT and ENCOMPLIT updated

NEWS 39 May 16 CHEMREACT will be removed from STN
NEWS 40 May 19 Simultaneous left and right truncation added to WSCA
NEWS 41 May 19 RAPRA enhanced with new search field, simultaneous left and right truncation
NEWS 42 Jun 06 Simultaneous left and right truncation added to CBNB
NEWS 43 Jun 06 PASCAL enhanced with additional data
NEWS 44 Jun 20 2003 edition of the FSTA Thesaurus is now available

NEWS EXPRESS April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
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* * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 15:59:29 ON 20 JUN 2003

=> fil casreact
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'CASREACT' ENTERED AT 16:00:00 ON 20 JUN 2003
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FILE CONTENT:1907 - 15 Jun 2003 VOL 138 ISS 24

Some records from 1974 to 1991 are derived from the ZIC/VINITI data file and provided by InfoChem and some records are produced using some INPI data from the period prior to 1986.

This file contains CAS Registry Numbers for easy and accurate substance identification.

Crossover limits have been increased. See HELP RNCROSSOVER for details.

Structure search limits have been raised. See HELP SLIMIT for the new, higher limits.

=>

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Uploading 09817744b.str

L1 STRUCTURE UPLOADED

=> d
L1 HAS NO ANSWERS
L1 STR

Structure attributes must be viewed using STN Express query preparation.

=> s l1 full
FULL SEARCH INITIATED 16:00:20 FILE 'CASREACT'
SCREENING COMPLETE - 363029 REACTIONS TO VERIFY FROM 32977 DOCUMENTS

100.0% DONE 363029 VERIFIED 3292 HIT RXNS 500 DOCS
SEARCH TIME: 00.00.10

L2 500 SEA SSS FUL L1 (3292 REACTIONS)

=> s l2 and reactor
3014 REACTOR
L3 8 L2 AND REACTOR

=> d l3 1-8 ibib abs hitstr
'HITSTR' IS NOT A VALID FORMAT FOR FILE 'CASREACT'

The following are valid formats:

ABS -------- GI and AB
ALL -------- BIB, AB, IND, RE, Single-step Reactions
APPS ------- AI, PRAI
BIB -------- AN, plus Bibliographic Data
CAN -------- List of CA abstract numbers without answer numbers
CBIB ------- AN, plus Compressed Bibliographic Data
DALL ------- ALL, delimited (end of each field identified)
IABS ------- ABS, indented with text labels
IALL ------- ALL, indented with text labels
IBIB ------- BIB, indented with text labels
IND -------- Indexing data
IPC -------- International Patent Classifications
ISTD ------- STD, indented with text labels
OBIB -------- AN, plus Bibliographic Data (original)
OIBIB ------- OBIB, indented with text labels

SBIB -------- BIB, no citations
SIBIB ------- IBIB, no citations

MAX -------- Same as ALL
PATS ------- PI, SO
SCAN ------- TI and FCRD (random display, no answer number. SCAN
must be entered on the same line as DISPLAY, e.g.,

D SCAN.)
SSRX ------- Single-Step Reactions (Map, Diagram, and Summary for all single-step reactions)
STD -------- BIB, IPC, and NCL

CRD -------- Compact Display of All Hit Reactions
CRDREF ----- Compact Reaction Display and SO, PY for Reference
FHIT ------- Reaction Map, Diagram, and Summary for first hit reaction
FHITCBIB --- FHIT, AN plus CBIB
FCRD ------- First hit in Compact Reaction Display (CRD) format
FCRDREF ---- First hit in Compact Reaction Display (CRD) format with CA reference information (SO, PY). (Default)
FPATH ------ PATH, plus Reaction Summary for the "long path"
FSPATH ----- SPATH, plus Reaction Summary for the "short path"
HIT -------- Reaction Map, Reaction Diagram, and Reaction Summary for all hit reactions and fields containing hit terms
OCC -------- All hit fields and the number of occurrences of the hit terms in each field. Includes total number of HIT, PATH, SPATH reactions. Labels reactions that have incomplete verifications.
PATH ------- Reaction Map and Reaction Diagram for the "long path". Displays all hit reactions, except those whose steps are totally included within another hit reaction which is displayed
RX --------- Hit Reactions (Map, Diagram, Summary for all hit reactions)
RXG -------- Hit Reaction Graphics (Map and Diagram for all hit reactions)
RXL -------- Hit Reaction Long (Map, Diagram, Summary for all hit reactions)
RXS -------- Hit Reaction Summariers (Map and Summary for all hit reactions)
SPATH ------ Reaction Map and Reaction Diagram for the "short path". Displays all single step reactions which contain a hit substance. Also displays those multistep reactions that have a hit substance in both the first and last steps of the reaction, except for those hit reactions whose steps are totally included within another hit reaction which is displayed

To display a particular field or fields, enter the display field codes. For a list of the display field codes, enter HELP DFIELDS at an arrow prompt (=>). Examples of combinations include: D TI; D BIB RX; D TI, AU, FCRD. The information is displayed in the same order as the specification. All of the formats, except CRD, CRDREF, FHIT, PATH, FPATH, SPATH, FSPATH, FCRD, FCRDREF, HIT, RX, RXG, RXS, SCAN, and OCC, may be used with the DISPLAY command to display the record for a specified Accession Number.

ENTER DISPLAY FORMAT (FCRDREF):all

L3 ANSWER 1 OF 8 CASREACT COPYRIGHT 2003 ACS
AN 135:122209 CASREACT
TI Preparation of nitriles by oxidation of alkanes
IN Sugiyama, Naoki; Midorikawa, Hideo
PA Asahi Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese

09817744

IC ICM C07C253-24
ICS B01J027-057; C07C255-08; C07B061-00
CC 23-19 (Aliphatic Compounds)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001206871	A2	20010731	JP 2000-18257	20000127
PRAI	JP 2000-18257	20000127			

AB C3-6 alkanes are oxidized with mol. O in the presence of supported catalysts of Mo1VaNbbTecAdOx (A = B, Al, Ga, W, Cr, Ta, etc.; 0.01 .ltoreq. a .ltoreq. 1.0; 0.01 .ltoreq. b .ltoreq. 1.0; 0.01 .ltoreq. c .ltoreq. 1.0; 0 .ltoreq. d .ltoreq. 0.3; x = no. that is detd. by valence of other elements) in a fixed-bed **reactor**, wherein alkane gas is fed to bump into O gas flow and reaction is controlled to be O concn. .gtoreq.0.1 vol.% in gas at the outlet of the **reactor**. Propane, NH3, and air were fed into a **reactor** packed with Mo1V0.32Nb0.12Te0.22Ox/silica and reacted at 430.degree. to give acrylonitrile with 58.3% selectivity at 80.3% conversion after 24 h.

ST alkane oxidn molybdenum vanadium oxide catalyst; propane ammoxidn niobium tellurium oxide catalyst; acrylonitrile prepn

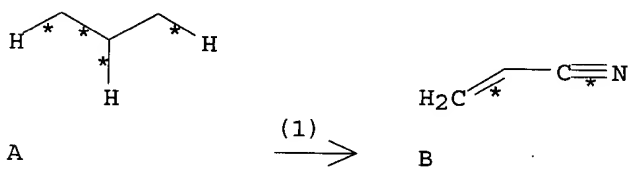
IT Ammoxidation
(prepn. of nitriles by oxidn. of alkanes)

IT 146569-48-4, Molybdenum niobium tellurium vanadium oxide
RL: CAT (Catalyst use); USES (Uses)
(prepn. of nitriles by oxidn. of alkanes)

IT 107-13-1P, Acrylonitrile, preparation
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of nitriles by oxidn. of alkanes)

IT 74-98-6, Propane, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of nitriles by oxidn. of alkanes)

RX(1) OF 1 **A** ===> **B**



A B

RX(1) RCT A **74-98-6**
RGT C 7664-41-7 NH3, D 7782-44-7 O2
PRO B **107-13-1**
CAT 146569-48-4 Molybdenum niobium tellurium vanadium oxide
NTE gas phase

L3 ANSWER 2 OF 8 CASREACT COPYRIGHT 2003 ACS
AN 135:122208 CASREACT
TI Preparation of nitriles by oxidation of alkanes
IN Sugiyama, Naoki; Midorikawa, Hideo

09817744

PA Asahi Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C07C253-24
ICS B01J023-28; C07C255-08; C07B061-00
CC 23-19 (Aliphatic Compounds)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001206870	A2	20010731	JP 2000-18256	20000127
PRAI	JP 2000-18256		20000127		

AB C3-6 alkanes are oxidized with mol. O in the presence of supported catalysts of Mo1VaNbbSbcAdOx (A = B, Al, Ga, W, Cr, Ta, etc.; 0.01 .ltoreq. a .ltoreq. 1.0; 0.01 .ltoreq. b .ltoreq. 1.0; 0.01 .ltoreq. c .ltoreq. 1.0; 0 .ltoreq. d .ltoreq. 0.3; x = no. that is detd. by valence of other elements) in a fixed-bed **reactor**, wherein alkane gas is fed to bump into O gas flow and reaction is controlled to be O concn. .gtoreq.0.1 vol% in gas at the outlet of the **reactor**. Propane, NH3, and air were fed into a **reactor** packed with Mo1V0.33Nb0.07Sb0.22Ox/silica and reacted at 440.degree. to give acrylonitrile with 55.3% selectivity at 50.8% conversion after 24 h.

ST alkane oxidn molybdenum vanadium oxide catalyst; propane ammoxidn niobium antimony oxide catalyst; acrylonitrile prepn

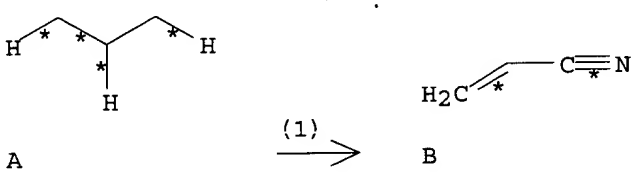
IT Ammoxidation
(prepn. of nitriles by oxidn. of alkanes)

IT 193405-60-6, Antimony molybdenum niobium vanadium oxide
RL: CAT (Catalyst use); USES (Uses)
(prepn. of nitriles by oxidn. of alkanes)

IT 107-13-1P, Acrylonitrile, preparation
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of nitriles by oxidn. of alkanes)

IT 74-98-6, Propane, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of nitriles by oxidn. of alkanes)

RX(1) OF 1 **A** ===> **B**



RX(1) RCT A **74-98-6**
RGT C **7664-41-7** NH3, D 7782-44-7 O2
PRO B **107-13-1**
CAT 193405-60-6 Antimony molybdenum niobium vanadium oxide
NTE gas phase

L3 ANSWER 3 OF 8 CASREACT COPYRIGHT 2003 ACS
AN 134:178277 CASREACT
TI Preparation of acrylonitriles and/or acrylic acids by gas-phase catalytic oxidation
IN Ushikubo, Takashi; Nakamura, Koya
PA Mitsubishi Chemical Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C07C051-215
ICS B01J023-28; B01J027-057; C07C057-05; C07C253-24; C07C255-08; C07B061-00
CC 23-19 (Aliphatic Compounds)
Section cross-reference(s): 35

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001055355	A2	20010227	JP 1999-231521	19990818

PRAI JP 1999-231521 19990818

AB Unsatd. nitriles and/or unsatd. carboxylic acids are prepd. by gas-phase oxidn. of hydrocarbons in the presence of mixed oxide catalysts contg. Mo, V, and Te and/or Sb, where catalysts are heated in the atm. contg. no O and/or flammable gas till they reach to reaction temp. A mixt. of propane, NH3, and O (1:1.2:3) was fed into a **reactor** packed with mixed oxide of 1:0.3:0.23:0.12 ratio of Mo, V, Te, and Nb (heated under N till 350.degree.) at 430.degree. to give 46.9% acrylonitrile.
ST acrylonitrile acrylic acid prepn; propane oxidn amine molybdenum oxide catalyst; oxide oxidn propane molybdenum vanadium catalyst
IT Oxidation catalysts
(gas-phase; prepn. of acrylonitriles and/or acrylic acids by gas-phase catalytic oxidn.)
IT Hydrocarbons, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of acrylonitriles and/or acrylic acids by gas-phase catalytic oxidn.)
IT Carboxylic acids, preparation
Nitriles, preparation
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(unsatd.; prepn. of acrylonitriles and/or acrylic acids by gas-phase catalytic oxidn.)
IT 146569-48-4, Molybdenum niobium tellurium vanadium oxide 193405-60-6, Antimony molybdenum niobium vanadium oxide
RL: CAT (Catalyst use); USES (Uses)
(catalyst; prepn. of acrylonitriles and/or acrylic acids by gas-phase catalytic oxidn.)
IT 79-10-7P, Acrylic acid, preparation 107-13-1P, Acrylonitrile, preparation
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of acrylonitriles and/or acrylic acids by gas-phase catalytic oxidn.)
IT 74-98-6, Propane, reactions 75-28-5, Isobutane
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of acrylonitriles and/or acrylic acids by gas-phase catalytic oxidn.)

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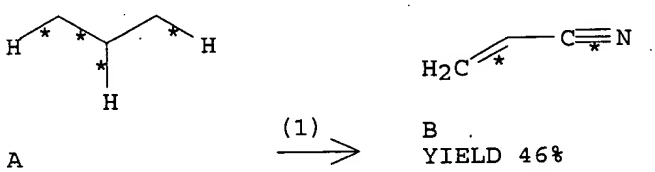
RX(1) OF 1 **A** ===> **B**



A (1) → B YIELD 46%

RX(1) RCT A **74-98-6**
RGT C **7664-41-7** NH3, D 7782-44-7 O2
PRO B **107-13-1**
CAT 146569-48-4 Molybdenum niobium tellurium vanadium oxide
NTE gas phase

L3 ANSWER 4 OF 8 CASREACT COPYRIGHT 2003 ACS
AN 123:339153 CASREACT
TI Manufacture of (meth)acrylonitrile
IN Kishimoto, Yoshiji; Matsueda, Taizo
PA Nippon Catalytic Chem Ind, Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C07C255-08
ICS B01J023-30; B01J023-34; B01J023-88; C07C253-24
ICA C07B061-00
CC 23-19 (Aliphatic Compounds)
Section cross-reference(s): 67
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07157462	A2	19950620	JP 1993-304108	19931203
	JP 2798879	B2	19980917		

PRAI JP 1993-304108 19931203

AB Title compd. is manufd. by oxidizing propane and/or isobutane with an O2-NH3 mixt. in the presence of Mo.alpha.Sb.beta.W.gamma.Ox (I; .alpha. = 1; .beta. = 0.5-10; .gamma. = 0.5-10; x = no. for balancing) supported on refractory inorg. substances and I may addnl. contain .gtoreq.1 element selected from V, Nb, Cr, Mn, Fe, Co, and Ni. Thus, a mixt. of propane/NH3/O2/He/H2O [1/2/4/7.5/3 (mol)] was fed to a **reactor** contg. Mo-Sb-W oxide (Mo1Sb3W3)/(Al2O3 + SiO2) at SV 900 h- and 580.degree. to give 35.2% acrylonitrile.

ST acrylonitrile manuf; propane ammoxidn; methacrylonitrile manuf; isobutane ammoxidn; metal oxide ammoxidn catalyst; molybdenum antimony tungsten oxide catalyst

IT Ammoxidation catalysts
(antimony molybdenum tungsten oxides for propane and/or isobutane to (meth)acrylonitrile)

IT Ammoxidation
(of propane to acrylonitrile and of isobutane to methacrylonitrile)

IT 7631-86-9, Silica, uses

RL: CAT (Catalyst use); USES (Uses)
(alumina-; catalyst supports for antimony molybdenum tungsten oxides for ammoxidn. of propane and/or isobutane to (meth)acrylonitrile)

IT 74-98-6, Propane, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(ammoxidn. to acrylonitrile)

IT 75-28-5, Isobutane
RL: RCT (Reactant); RACT (Reactant or reagent)
(ammoxidn. to methacrylonitrile)

IT 7782-44-7, Oxygen, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(ammoxidn. with ammonia of propane and/or isobutane to (meth)acrylonitrile)

IT 7664-41-7, Ammonia, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(ammoxidn. with oxygen of propane and/or isobutane to (meth)acrylonitrile)

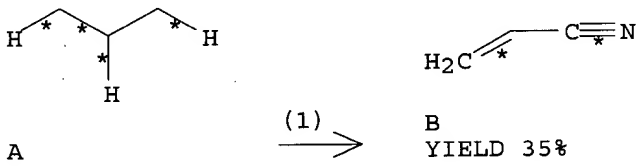
IT 126-98-7P, Methacrylonitrile
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(prepn. by ammoxidn. of isobutane)

IT 107-13-1P, Acrylonitrile, preparation
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(prepn. by ammoxidn. of propane)

IT 1344-28-1, Alumina, uses
RL: CAT (Catalyst use); USES (Uses)
(silica-; catalyst supports for antimony molybdenum tungsten oxides for ammoxidn. of propane and/or isobutane to (meth)acrylonitrile)

IT 53028-50-5P, Antimony molybdenum tungsten oxide 170621-18-8P 170621-19-9P 170621-20-2P 170621-21-3P 170621-22-4P
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(supported on alumina-silica; catalysts for ammoxidn. of propane and/or isobutane to (meth)acrylonitrile)

RX(1) OF 1 **A** ===> **B**



RX(1) RCT A **74-98-6**
RGT C **7664-41-7** NH3, D 7782-44-7 O2
PRO B **107-13-1**
CAT 53028-50-5 Antimony molybdenum tungsten oxide, 1344-28-1 Al2O3, 7631-86-9 SiO2
SOL 7732-18-5 Water

L3 ANSWER 5 OF 8 CASREACT COPYRIGHT 2003 ACS
AN 123:339152 CASREACT
TI Manufacture of (meth)acrylonitrile
IN Kurusu, Akira; Kishimoto, Yoshiji; Nakamura, Isao; Matsunami, Etsunari
PA Nippon Catalytic Chem Ind, Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C07C255-08
ICS B01J023-30; B01J023-34; B01J023-88; C07C253-24
ICA C07B061-00
CC 23-19 (Aliphatic Compounds)
Section cross-reference(s): 67
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07157461	A2	19950620	JP 1993-304107	19931203
	JP 2798878	B2	19980917		
	US 5844112	A	19981201	US 1996-666577	19960701
PRAI	JP 1993-304107	19931203			
	WO 1996-JP96	19960122			

AB Propane and/or isobutane is oxidized to (meth)acrylonitrile with an O2-NH3 mixt. in the presence of Cr.alpha.Sb.beta.W.gamma.Ox (I; .alpha. = 1, .beta. = 0.5-5, .gamma. = 0.2-2, x = no. for balancing) supported on a refractory inorg. substance and I may addnl. contain .gtoreq.1 element selected from V, Nb, Mo, Mn, Fe, Co, and Ni. Thus, a mixt. of propane/NH3/O2/He/H2O [1/2/4/7.5/3 (mol)] was fed to a **reactor** contg. Cr-Sb-W oxide (Cr1Sb1.5W0.5)/(Al2O3+ SiO2) at SV 900 h-1 and 520.degree. to give 35.0% acrylonitrile.

ST acrylonitrile manuf; ammoxidn propane; chromium antimony tungsten oxide catalyst; isobutane ammoxidn; methacrylonitrile manuf

IT Ammoxidation catalysts
(antimony chromium tungsten oxides for propane and/or isobutane to (meth)acrylonitrile)

IT Ammoxidation
(of propane to acrylonitrile and of isobutane to methacrylonitrile)

IT 7631-86-9, Silica, uses
RL: CAT (Catalyst use); USES (Uses)
(alumina-; catalyst supports for antimony chromium tungsten oxides for ammoxidn. of propane and/or isobutane)

IT 74-98-6, Propane, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(ammoxidn. to acrylonitrile)

IT 75-28-5, Isobutane
RL: RCT (Reactant); RACT (Reactant or reagent)
(ammoxidn. to methacrylonitrile)

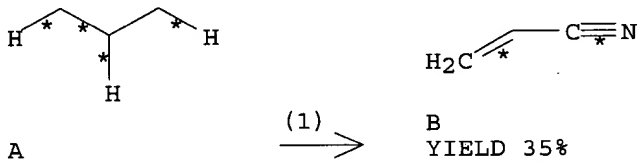
IT 7782-44-7, Oxygen, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(ammoxidn. with ammonia of propane and/or isobutane to (meth)acrylonitrile)

IT 7664-41-7, Ammonia, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(ammoxidn. with oxygen of propane and/or isobutane to (meth)acrylonitrile)

IT 1314-23-4, Zirconium dioxide, uses 13463-67-7, Titanium dioxide, uses
RL: CAT (Catalyst use); USES (Uses)
(catalyst supports for antimony chromium tungsten oxides for ammoxidn. of propane and/or isobutane)

IT 126-98-7P, Methacrylonitrile
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(prepn. by ammoxidn. of isobutane)
IT 107-13-1P, Acrylonitrile, preparation
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(prepn. by ammoxidn. of propane)
IT 1344-28-1, Alumina, uses
RL: CAT (Catalyst use); USES (Uses)
(silica-; catalyst supports for antimony chromium tungsten oxides for ammoxidn. of propane and/or isobutane)
IT 170621-23-5P, Antimony chromium tungsten oxide
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(supported on alumina, alumina-silica or zirconia; catalysts for ammoxidn. of propane and/or isobutane to (meth)acrylonitrile)
IT 170621-20-2P 170621-24-6P 170621-25-7P, Antimony chromium niobium tungsten oxide 170621-26-8P 170621-27-9P, Antimony chromium iron tungsten oxide
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(supported on alumina-silica; catalysts for ammoxidn. of propane and/or isobutane to (meth)acrylonitrile)

RX(1) OF 1 **A** ===> **B**



A B
YIELD 35%

RX(1) RCT A **74-98-6**
RGT C **7664-41-7** NH3, D 7782-44-7 O2
PRO B **107-13-1**
CAT 170621-23-5 Antimony chromium tungsten oxide, 1344-28-1 Al2O3, 7631-86-9 SiO2
SOL 7732-18-5 Water

L3 ANSWER 6 OF 8 CASREACT COPYRIGHT 2003 ACS
AN 122:105276 CASREACT
TI Preparation of aminopropionitriles from acrylonitriles and ammonia.
IN Merger, Franz; Brudermueller, Martin; Priester, Claus-Ulrich; Harder, Wolfgang; Winderl, Siegfied
PA BASF A.-G., Germany
SO Eur. Pat. Appl., 6 pp.
CODEN: EPXXDW
DT Patent
LA German
IC ICM C07C253-30

ICS C07C255-24
CC 23-19 (Aliphatic Compounds)
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 630885	A1	19941228	EP 1993-109817	19930619
	EP 630885	B1	19951206		
	R: BE, DE, ES, FR, GB, IT, NL, SE				
	CZ 288021	B6	20010411	CZ 1993-1209	19930618
	ES 2080559	T3	19960201	ES 1993-109817	19930619
	JP 07017934	A2	19950120	JP 1993-158660	19930629
	JP 3342922	B2	20021111		
PRAI	DE 1991-4125797	19910803			
	DE 1992-4215192	19920508			
	EP 1993-109817	19930619			
	JP 1993-158660	19930629			

AB H2NCH2CHRCN (R = H, Me) were prepd. by reaction of NH3 with H2C:CRCN (1-500:1 molar ratio) at 40-180.degree. and 10-350 bar using heterogeneous catalysts. Thus, a mixt. of liq. NH3 and acrylonitrile were pumped into a tube **reactor** packed with SiO2 at 90.degree. to give a mixt. of 3-aminopropionitrile 85.1 wt.% and bis(2-cyanoethyl)amine 13.0 wt.%.

ST aminopropionitrile; acrylonitrile ammonia reaction acidic heterogeneous catalyst

IT Amination catalysts
(acidic heterogeneous catalysts; prepn. of aminopropionitriles from acrylonitriles and ammonia)

IT Zeolites, uses
RL: CAT (Catalyst use); USES (Uses)
(acidic; prepn. of aminopropionitriles from acrylonitriles and ammonia)

IT Amination
(prepn. of aminopropionitriles from acrylonitriles and ammonia)

IT Alkaline earth oxides
Heteropoly acids
Phosphates, uses
RL: CAT (Catalyst use); USES (Uses)
(prepn. of aminopropionitriles from acrylonitriles and ammonia)

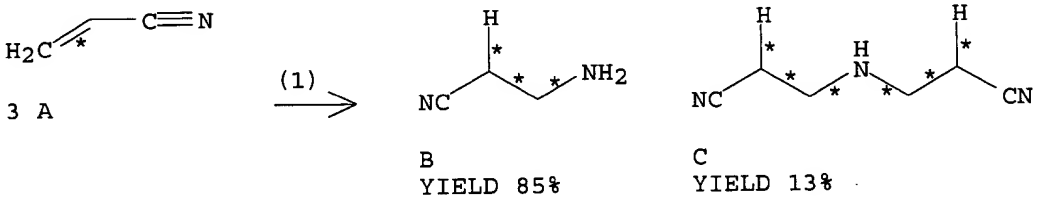
IT Group IIB element chalcogenides
Group IIIA element chalcogenides
Group IIIB element chalcogenides
Group IVA element chalcogenides
Group IVB element chalcogenides
Group VB element chalcogenides
Group VIB element chalcogenides
RL: CAT (Catalyst use); USES (Uses)
(oxides, prepn. of aminopropionitriles from acrylonitriles and ammonia)

IT 111-94-4P, Bis(2-cyanoethyl)amine
RL: BYP (Byproduct); PREP (Preparation)
(prepn. of aminopropionitriles from acrylonitriles and ammonia)

IT 96-16-2P, 3-Amino-2-methylpropionitrile 151-18-8P, 3-Aminopropionitrile
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of aminopropionitriles from acrylonitriles and ammonia)

IT 107-13-1, Acrylonitrile, reactions 126-98-7, .alpha.-Methylacrylonitrile 7664-41-7, Ammonia, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of aminopropionitriles from acrylonitriles and ammonia)

RX(1) OF 1 3 **A** ===> B + C



RX(1) RCT A **107-13-1**
RGT D **7664-41-7** NH3
PRO B 151-18-8, C 111-94-4
CAT 7631-86-9 SiO2
NTE VARIOUS CATALYSTS USED (SILICA, ALUMINA, ZEOLITES, CERIUM OXIDE)

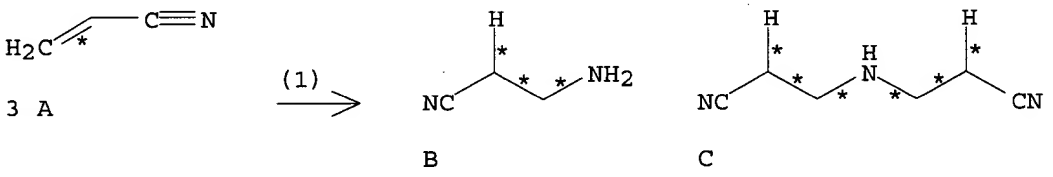
L3 ANSWER 7 OF 8 CASREACT COPYRIGHT 2003 ACS
AN 119:249592 CASREACT
TI Preparation of aminopropionitriles from ammonia and acrylonitriles
IN Merger, Franz; Brudermueller, Martin; Priester, Claus-Ulrich; Harder, Wolfgang; Winderl, Siegfried
PA BASF A.-G., Germany
SO U.S., 4 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C07C253-30
NCL 558452000
CC 23-19 (Aliphatic Compounds)
Section cross-reference(s): 45
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5247120	A	19930921	US 1992-921660	19920730
	ZA 9304464	A	19941222	ZA 1993-4464	19930622
PRAI	DE 1991-4125797		19910803		
	DE 1992-4215192		19920508		

OS MARPAT 119:249592
AB Aminopropionitriles H2NCH2CHRCN (R = H, Me) are prepd. by reaction of NH3 with acrylonitriles CH2:CRCN in mol ratio (1-500):1 at 40-180.degree. and 10-350 bar using as catalyst an oxide of an element of the 2nd, 3rd, or 4th main group, or the 2nd to 6th subgroup, of the periodic table, or an acidic zeolite, or a mixt. thereof. For example, a mixt. of 270 mL NH3(l) and 20 mL acrylonitrile (I) was pumped to a tubular **reactor** filled with 19.8 g SiO2 chips at 90.degree., 180 bar, and space velocity 0.8 g I/g SiO2/h. Conversion after 100 h was 99%, and the exit product contained (by wt.) 85.1% H2NCH2CH2CN (II), 13.0% HN(CH2CH2CN)2 (III), and 0.9% I. Similar runs using different catalysts gave varying compns., e.g., Al2O3-SiO2 mixt. gave 90.6% II and 9.4% III with 100% conversion, whereas CeO2 gave 59.1% II, 30.6% III, and 10.3% unreacted I at 92% conversion. Other catalyst were ZBM-11 boron zeolite, ZSM-11 zeolite, Al2O3, and an Al2O3-CeO2 mixt.
ST aminopropionitrile; propionitrile amino; ammonia addn acrylonitrile metal oxide catalyst; zeolite catalyst addn ammonia acrylonitrile

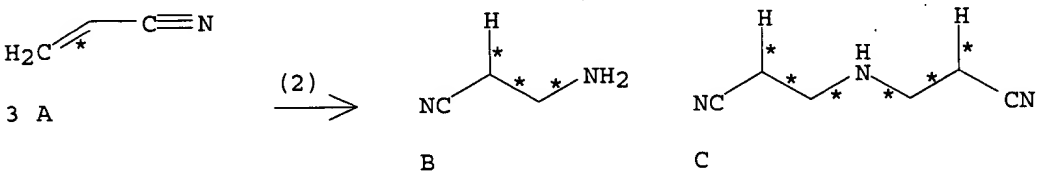
IT Zeolites, uses
RL: USES (Uses)
(ZBM-11, catalysts, for addn. of ammonia to acrylonitrile)
IT Zeolites, uses
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for addn. of ammonia to acrylonitrile)
IT Addition reaction catalysts
(metal oxides and zeolites, for ammonia with acrylonitriles)
IT Addition reaction
(of ammonia with acrylonitriles)
IT Zeolites, uses
RL: CAT (Catalyst use); USES (Uses)
(ZSM 11, catalysts, for addn. of ammonia to acrylonitrile)
IT 107-13-1, Acrylonitrile, reactions 126-98-7, 2-Methylacrylonitrile
7664-41-7, Ammonia, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(addn. of ammonia to acrylonitriles, metal oxide or zeolite catalysts for)
IT 111-94-4, Bis(2-cyanoethyl)amine
RL: RCT (Reactant); RACT (Reactant or reagent)
(byproduct, in prepn. of aminopropionitriles by addn. of ammonia to acrylonitriles)
IT 107-95-9, .beta.-Alanine 109-76-2, 1,3-Propylenediamine
RL: RCT (Reactant); RACT (Reactant or reagent)
(intermediate for, improved prepn. of aminopropionitrile as)
IT 1303-86-2, Boron oxide, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses
RL: USES (Uses)
(metal oxide or zeolite catalysts, for addn. of ammonia to acrylonitriles)
IT 11129-18-3, Cerium oxide
RL: RCT (Reactant); RACT (Reactant or reagent)
(metal oxide or zeolite catalysts, for addn. of ammonia to acrylonitriles)
IT 96-16-2 151-18-8, 3-Aminopropionitrile
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of aminopropionitriles by addn. of ammonia to acrylonitriles)

RX(1) OF 6 3 **A** ===> B + C



RX(1) RCT A **107-13-1**
RGT D **7664-41-7** NH3
PRO B 151-18-8, C 111-94-4
CAT 7631-86-9 SiO2
NTE 90.degree., 180 bar, 99% conversion, 85% monoadduct, 13% bisadduct

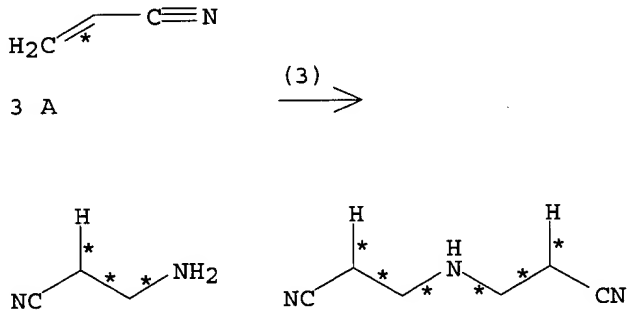
RX(2) OF 6 3 **A** ===> B + C



3 A (2) B C

RX(2) RCT A **107-13-1**
RGT D **7664-41-7** NH3
PRO B 151-18-8, C 111-94-4
CAT 1344-28-1 Al2O3, 11129-18-3 Cerium oxide
NTE 50.degree., 200 bar, >99% conversion, 77% monoadduct, 22% bisadduct

RX(3) OF 6 3 **A** ===> B + C



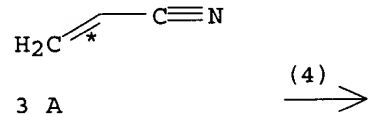
3 A (3) B C

B
YIELD 100%(91)

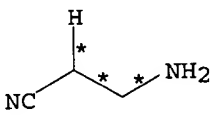
C
YIELD 100%(9)

RX(3) RCT A **107-13-1**
RGT D **7664-41-7** NH3
PRO B 151-18-8, C 111-94-4
CAT 7631-86-9 SiO2, 1344-28-1 Al2O3
NTE 90.degree., 180 bar, 100% conversion

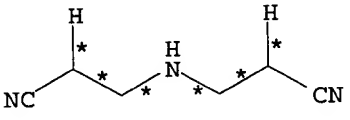
RX(4) OF 6 3 **A** ===> B + C



3 A (4)



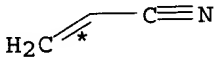
B



C

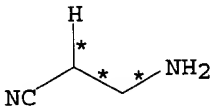
RX(4) RCT A **107-13-1**
RGT D **7664-41-7** NH3
PRO B 151-18-8, C 111-94-4
CAT 7631-86-9 SiO2, 1303-86-2 B2O3
NTE 130.degree., 180 bar, as ZBM-11 catalyst, 94% conversion, 85% monoadduct, 14% bisadduct

RX(5) OF 6 3 **A** ===> B + C

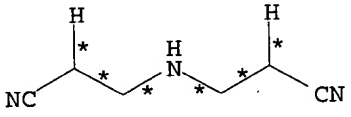


3 A

(5) →



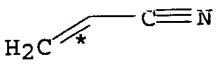
B



C

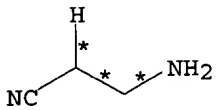
RX(5) RCT A **107-13-1**
RGT D **7664-41-7** NH3
PRO B 151-18-8, C 111-94-4
CAT 7631-86-9 SiO2, 1344-28-1 Al2O3
NTE 110.degree., 180 bar, as ZSM-11 catalyst, 97% conversion, 80% monoadduct, 15% bisadduct

RX(6) OF 6 3 **A** ===> B + C

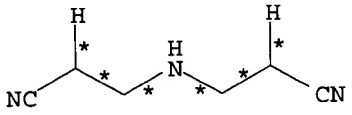


3 A

(6) →



B



C

RX(6) RCT A **107-13-1**
RGT D **7664-41-7** NH3
PRO B 151-18-8, C 111-94-4
CAT 11129-18-3 Cerium oxide
NTE 90.degree., 200 bar, 92% conversion, 59% monoadduct, 31% bisadduct

L3 ANSWER 8 OF 8 CASREACT COPYRIGHT 2003 ACS
AN 118:80505 CASREACT
TI Preparation of .alpha.,.beta.-unsaturated nitriles
IN Ishii, Kanji; Murotani, Hiroaki
PA Asahi Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C07C255-08
ICS C07C253-18; C07C253-24
CC 23-19 (Aliphatic Compounds)
Section cross-reference(s): 47
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04202171	A2	19920722	JP 1990-329901	19901130
	JP 06076366	B4	19940928		
PRAI	JP 1990-329901		19901130		

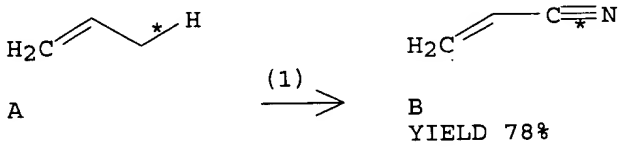
AB Acrylonitrile was prepd. in 78.2% yield by feeding air 9,100 Nm3/h, propylene of 96% purity 1,000 Nm3/h, and NH3 1,150 Nm3/h into the above **reactor** packed with 25 tons of a fluidized bed of a Mo-Bi-Fe catalyst and reacting them at 470.degree.. An app. for this purpose is described in detail.
ST unsatd nitrile prepn; propylene isobutylene oxidative cyanation ammonia; butyl alc oxidative cyanation ammonia; app unsatd nitrile prepn
IT Alkenes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidative cyanation of, with ammonia and oxygen)
IT Cyanation
(oxidative, of propylene, isobutylene, or tert-Bu alc. with ammonia, app. for)
IT Nitriles, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(.alpha.,.beta.-unsatd., prepn. of, by oxidative cyanation of olefins or tert-Bu alc. with ammonia)
IT 7439-89-6, Iron, uses 7439-98-7, Molybdenum, uses 7440-69-9, Bismuth, uses
RL: CAT (Catalyst use); USES (Uses)
(catalyst contg., for oxidative cyanation of olefins and tert-Bu alc. with ammonia)
IT 74-90-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyanation, oxidative, of propylene, isobutylene, or tert-Bu alc. with ammonia, app. for)
IT 7782-44-7, Oxygen, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidative cyanation by ammonia and, of propylene)
IT 7664-41-7, Ammonia, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)

(oxidative cyanation by oxygen and, of propylene and isobutylene)

IT 75-65-0, tert-Butyl alcohol, reactions 115-07-1, Propylene, reactions
115-11-7, Isobutylene, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidative cyanation of, with ammonia)

IT 107-13-1P, Acrylonitrile, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, by oxidative cyanation of propylene with ammonia)

RX(1) OF 1 **A** ===> **B**



A

B
YIELD 78%

RX(1) RCT A **115-07-1**
RGT C 7782-44-7 O2, D **7664-41-7** NH3
PRO B **107-13-1**
CAT 7439-98-7 Mo, 7440-69-9 Bi, 7439-89-6 Fe
NTE 470.degree., fluidized bed **reactor**

09817744

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NEWS 4	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 5	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS 6	Aug 26	Sequence searching in REGISTRY enhanced
NEWS 7	Sep 03	JAPIO has been reloaded and enhanced
NEWS 8	Sep 16	Experimental properties added to the REGISTRY file
NEWS 9	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS 10	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS 11	Oct 24	BEILSTEIN adds new search fields
NEWS 12	Oct 24	Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 13	Nov 18	DKILIT has been renamed APOLLIT
NEWS 14	Nov 25	More calculated properties added to REGISTRY
NEWS 15	Dec 04	CSA files on STN
NEWS 16	Dec 17	PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS 17	Dec 17	TOXCENTER enhanced with additional content
NEWS 18	Dec 17	Adis Clinical Trials Insight now available on STN
NEWS 19	Jan 29	Simultaneous left and right truncation added to COMPENDEX, ENERGY, INSPEC
NEWS 20	Feb 13	CANCERLIT is no longer being updated
NEWS 21	Feb 24	METADEX enhancements
NEWS 22	Feb 24	PCTGEN now available on STN
NEWS 23	Feb 24	TEMA now available on STN
NEWS 24	Feb 26	NTIS now allows simultaneous left and right truncation
NEWS 25	Feb 26	PCTFULL now contains images
NEWS 26	Mar 04	SDI PACKAGE for monthly delivery of multifile SDI results
NEWS 27	Mar 20	EVENTLINE will be removed from STN
NEWS 28	Mar 24	PATDPAFULL now available on STN
NEWS 29	Mar 24	Additional information for trade-named substances without structures available in REGISTRY
NEWS 30	Apr 11	Display formats in DGENE enhanced
NEWS 31	Apr 14	MEDLINE Reload
NEWS 32	Apr 17	Polymer searching in REGISTRY enhanced
NEWS 33	Jun 13	Indexing from 1947 to 1956 added to records in CA/CAPLUS
NEWS 34	Apr 21	New current-awareness alert (SDI) frequency in WPIDS/WPINDEX/WPIX
NEWS 35	Apr 28	RDISCLOSURE now available on STN
NEWS 36	May 05	Pharmacokinetic information and systematic chemical names added to PHAR
NEWS 37	May 15	MEDLINE file segment of TOXCENTER reloaded
NEWS 38	May 15	Supporter information for ENCOMPPAT and ENCOMPLIT updated

09817744

NEWS 39 May 16 CHEMREACT will be removed from STN
NEWS 40 May 19 Simultaneous left and right truncation added to WSCA
NEWS 41 May 19 RAPRA enhanced with new search field, simultaneous left and right truncation
NEWS 42 Jun 06 Simultaneous left and right truncation added to CBNB
NEWS 43 Jun 06 PASCAL enhanced with additional data
NEWS 44 Jun 20 2003 edition of the FSTA Thesaurus is now available

NEWS EXPRESS April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS INTER General Internet Information
NEWS LOGIN Welcome Banner and News Items
NEWS PHONE Direct Dial and Telecommunication Network Access to STN
NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

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* * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 15:45:11 ON 20 JUN 2003

=> fil reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 15:45:20 ON 20 JUN 2003
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 19 JUN 2003 HIGHEST RN 534550-98-6
DICTIONARY FILE UPDATES: 19 JUN 2003 HIGHEST RN 534550-98-6

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=>

09817744

Uploading 09817744.str

L1 STRUCTURE UPLOADED

=> fil casreact
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.40	0.61

FILE 'CASREACT' ENTERED AT 15:45:37 ON 20 JUN 2003
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FILE CONTENT:1907 - 15 Jun 2003 VOL 138 ISS 24

Some records from 1974 to 1991 are derived from the ZIC/VINITI data file and provided by InfoChem and some records are produced using some INPI data from the period prior to 1986.

This file contains CAS Registry Numbers for easy and accurate substance identification.

Crossover limits have been increased. See HELP RNCROSSOVER for details.

Structure search limits have been raised. See HELP SLIMIT for the new, higher limits.

=> d l1
L1 HAS NO ANSWERS
L1 STR

Structure attributes must be viewed using STN Express query preparation.

=> s l1 full
FULL SEARCH INITIATED 15:45:48 FILE 'CASREACT'
SCREENING COMPLETE - 363029 REACTIONS TO VERIFY FROM 32977 DOCUMENTS

100.0% DONE 363029 VERIFIED 1701 HIT RXNS 282 DOCS
SEARCH TIME: 00.00.10

L2 282 SEA SSS FUL L1 (1701 REACTIONS)

=> s l2 and bed reactor
678 BED
3014 REACTOR
214 BED REACTOR

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                (BED(W)REACTOR)
L3          1 L2 AND BED REACTOR

=> d l3 full
'FULL' IS NOT A VALID FORMAT FOR FILE 'CASREACT'

The following are valid formats:

ABS -------- GI and AB
ALL -------- BIB, AB, IND, RE, Single-step Reactions
APPS ------- AI, PRAI
BIB -------- AN, plus Bibliographic Data
CAN -------- List of CA abstract numbers without answer numbers
CBIB ------- AN, plus Compressed Bibliographic Data
DALL ------- ALL, delimited (end of each field identified)
IABS ------- ABS, indented with text labels
IALL ------- ALL, indented with text labels
IBIB ------- BIB, indented with text labels
IND -------- Indexing data
IPC -------- International Patent Classifications
ISTD ------- STD, indented with text labels
OBIB -------- AN, plus Bibliographic Data (original)
OIBIB ------- OBIB, indented with text labels

SBIB -------- BIB, no citations
SIBIB ------- IBIB, no citations

MAX -------- Same as ALL
PATS ------- PI, SO
SCAN ------- TI and FCRD (random display, no answer number.  SCAN
             must be entered on the same line as DISPLAY, e.g.,
             D SCAN.)
SSRX ------- Single-Step Reactions (Map, Diagram, and Summary for
             all single-step reactions)
STD -------- BIB, IPC, and NCL

CRD -------- Compact Display of All Hit Reactions
CRDREF ----- Compact Reaction Display and SO, PY for Reference
FHIT ------- Reaction Map, Diagram, and Summary for first
             hit reaction
FHITCBIB --- FHIT, AN plus CBIB
FCRD ------- First hit in Compact Reaction Display (CRD) format
FCRDREF ---- First hit in Compact Reaction Display (CRD) format with
             CA reference information (SO, PY).  (Default)
FPATH ------ PATH, plus Reaction Summary for the "long path"
FSPATH ----- SPATH, plus Reaction Summary for the "short path"
HIT -------- Reaction Map, Reaction Diagram, and Reaction
             Summary for all hit reactions and fields containing
             hit terms
OCC -------- All hit fields and the number of occurrences of the
             hit terms in each field.  Includes total number of
             HIT, PATH, SPATH reactions. Labels reactions that have
             incomplete verifications.
PATH ------- Reaction Map and Reaction Diagram for the "long
             path".  Displays all hit reactions, except those
             whose steps are totally included within another hit
             reaction which is displayed
RX --------- Hit Reactions (Map, Diagram, Summary for all hit reactions)
RXG -------- Hit Reaction Graphics (Map and Diagram for all hit reactions)
```

RXL -------- Hit Reaction Long (Map, Diagram, Summary for all hit reactions)
RXS -------- Hit Reaction Summariers (Map and Summary for all hit reactions)
SPATH ------ Reaction Map and Reaction Diagram for the "short path". Displays all single step reactions which contain a hit substance. Also displays those multistep reactions that have a hit substance in both the first and last steps of the reaction, except for those hit reactions whose steps are totally included within another hit reaction which is displayed

To display a particular field or fields, enter the display field codes. For a list of the display field codes, enter HELP DFIELDS at an arrow prompt (=>). Examples of combinations include: D TI; D BIB RX; D TI, AU, FCRD. The information is displayed in the same order as the specification. All of the formats, except CRD, CRDREF, FHIT, PATH, FPATH, SPATH, FSPATH, FCRD, FCRDREF, HIT, RX, RXG, RXS, SCAN, and OCC, may be used with the DISPLAY command to display the record for a specified Accession Number.

ENTER DISPLAY FORMAT (FCRDREF):all

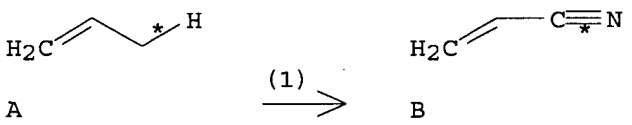
L3 ANSWER 1 OF 1 CASREACT COPYRIGHT 2003 ACS
AN 118:80505 CASREACT
TI Preparation of .alpha.,.beta.-unsaturated nitriles
IN Ishii, Kanji; Murotani, Hiroaki
PA Asahi Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C07C255-08
ICS C07C253-18; C07C253-24
CC 23-19 (Aliphatic Compounds)
Section cross-reference(s): 47
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04202171	A2	19920722	JP 1990-329901	19901130
	JP 06076366	B4	19940928		
PRAI	JP 1990-329901	19901130			

AB Acrylonitrile was prepd. in 78.2% yield by feeding air 9,100 Nm3/h, propylene of 96% purity 1,000 Nm3/h, and NH3 1,150 Nm3/h into the above reactor packed with 25 tons of a fluidized bed of a Mo-Bi-Fe catalyst and reacting them at 470.degree.. An app. for this purpose is described in detail.
ST unsatd nitrile prepn; propylene isobutylene oxidative cyanation ammonia; butyl alc oxidative cyanation ammonia; app unsatd nitrile prepn
IT Alkenes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidative cyanation of, with ammonia and oxygen)
IT Cyanation
(oxidative, of propylene, isobutylene, or tert-Bu alc. with ammonia, app. for)
IT Nitriles, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(.alpha.,.beta.-unsatd., prepn. of, by oxidative cyanation of olefins or tert-Bu alc. with ammonia)
IT 7439-89-6, Iron, uses 7439-98-7, Molybdenum, uses 7440-69-9, Bismuth,

uses
RL: CAT (Catalyst use); USES (Uses)
(catalyst contg., for oxidative cyanation of olefins and tert-Bu alc. with ammonia)
IT 74-90-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyanation, oxidative, of propylene, isobutylene, or tert-Bu alc. with ammonia, app. for)
IT 7782-44-7, Oxygen, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidative cyanation by ammonia and, of propylene)
IT 7664-41-7, Ammonia, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidative cyanation by oxygen and, of propylene and isobutylene)
IT 75-65-0, tert-Butyl alcohol, reactions 115-07-1, Propylene, reactions 115-11-7, Isobutylene, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidative cyanation of, with ammonia)
IT 107-13-1P, Acrylonitrile, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, by oxidative cyanation of propylene with ammonia)

RX(1) OF 1 **A** ===> **B**



A

B
YIELD 78%

RX(1) RCT A **115-07-1**
RGT C 7782-44-7 O2, D **7664-41-7** NH3
PRO B **107-13-1**
CAT 7439-98-7 Mo, 7440-69-9 Bi, 7439-89-6 Fe
NTE 470.degree., fluidized **bed reactor**

=> s l2 and reactor
3014 REACTOR
L4 3 L2 AND REACTOR

=> d l4 1-3 all

L4 ANSWER 1 OF 3 CASREACT COPYRIGHT 2003 ACS
AN 122:105276 CASREACT
TI Preparation of aminopropionitriles from acrylonitriles and ammonia.
IN Merger, Franz; Brudermueller, Martin; Priester, Claus-Ulrich; Harder, Wolfgang; Winderl, Siegfied
PA BASF A.-G., Germany
SO Eur. Pat. Appl., 6 pp.
CODEN: EPXXDW
DT Patent

09817744

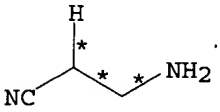
LA German
IC ICM C07C253-30
ICS C07C255-24
CC 23-19 (Aliphatic Compounds)
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 630885	A1	19941228	EP 1993-109817	19930619
	EP 630885	B1	19951206		
	R: BE, DE, ES, FR, GB, IT, NL, SE				
	CZ 288021	B6	20010411	CZ 1993-1209	19930618
	ES 2080559	T3	19960201	ES 1993-109817	19930619
	JP 07017934	A2	19950120	JP 1993-158660	19930629
	JP 3342922	B2	20021111		
PRAI	DE 1991-4125797	19910803			
	DE 1992-4215192	19920508			
	EP 1993-109817	19930619			
	JP 1993-158660	19930629			

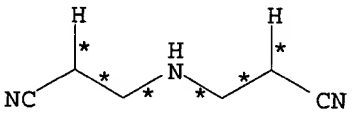
AB H2NCH2CHRCN (R = H, Me) were prepd. by reaction of NH3 with H2C:CRCN (1-500:1 molar ratio) at 40-180.degree. and 10-350 bar using heterogeneous catalysts. Thus, a mixt. of liq. NH3 and acrylonitrile were pumped into a tube **reactor** packed with SiO2 at 90.degree. to give a mixt. of 3-aminopropionitrile 85.1 wt.% and bis(2-cyanoethyl)amine 13.0 wt.%.
ST aminopropionitrile; acrylonitrile ammonia reaction acidic heterogeneous catalyst
IT Amination catalysts
(acidic heterogeneous catalysts; prepn. of aminopropionitriles from acrylonitriles and ammonia)
IT Zeolites, uses
RL: CAT (Catalyst use); USES (Uses)
(acidic; prepn. of aminopropionitriles from acrylonitriles and ammonia)
IT Amination
(prepn. of aminopropionitriles from acrylonitriles and ammonia)
IT Alkaline earth oxides
Heteropoly acids
Phosphates, uses
RL: CAT (Catalyst use); USES (Uses)
(prepn. of aminopropionitriles from acrylonitriles and ammonia)
IT Group IIB element chalcogenides
Group IIIA element chalcogenides
Group IIIB element chalcogenides
Group IVA element chalcogenides
Group IVB element chalcogenides
Group VB element chalcogenides
Group VIB element chalcogenides
RL: CAT (Catalyst use); USES (Uses)
(oxides, prepn. of aminopropionitriles from acrylonitriles and ammonia)
IT 111-94-4P, Bis(2-cyanoethyl)amine
RL: BYP (Byproduct); PREP (Preparation)
(prepn. of aminopropionitriles from acrylonitriles and ammonia)
IT 96-16-2P, 3-Amino-2-methylpropionitrile 151-18-8P, 3-Aminopropionitrile
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of aminopropionitriles from acrylonitriles and ammonia)
IT 107-13-1, Acrylonitrile, reactions 126-98-7, .alpha.-Methylacrylonitrile 7664-41-7, Ammonia, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of aminopropionitriles from acrylonitriles and ammonia)

RX(1) OF 1 3 **A** ===> B + C

3 A



B
YIELD 85%



C
YIELD 13%

RX(1) RCT A **107-13-1**
RGT D **7664-41-7** NH3
PRO B 151-18-8, C 111-94-4
CAT 7631-86-9 SiO2
NTE VARIOUS CATALYSTS USED (SILICA, ALUMINA, ZEOLITES, CERIUM OXIDE)

L4 ANSWER 2 OF 3 CASREACT COPYRIGHT 2003 ACS
AN 119:249592 CASREACT
TI Preparation of aminopropionitriles from ammonia and acrylonitriles
IN Merger, Franz; Brudermueller, Martin; Priester, Claus-Ulrich; Harder, Wolfgang; Winderl, Siegfried
PA BASF A.-G., Germany
SO U.S., 4 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C07C253-30
NCL 558452000
CC 23-19 (Aliphatic Compounds)
Section cross-reference(s): 45
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5247120	A	19930921	US 1992-921660	19920730
	ZA 9304464	A	19941222	ZA 1993-4464	19930622
PRAI	DE 1991-4125797	19910803			
	DE 1992-4215192	19920508			

OS MARPAT 119:249592
AB Aminopropionitriles H2NCH2CHRCN (R = H, Me) are prepd. by reaction of NH3 with acrylonitriles CH2:CRCN in mol ratio (1-500):1 at 40-180.degree. and 10-350 bar using as catalyst an oxide of an element of the 2nd, 3rd, or 4th main group, or the 2nd to 6th subgroup, of the periodic table, or an acidic zeolite, or a mixt. thereof. For example, a mixt. of 270 mL NH3(l) and 20 mL acrylonitrile (I) was pumped to a tubular **reactor** filled with 19.8 g SiO2 chips at 90.degree., 180 bar, and space velocity

0.8 g I/g SiO2/h. Conversion after 100 h was 99%, and the exit product contained (by wt.) 85.1% H2NCH2CH2CN (II), 13.0% HN(CH2CH2CN)2 (III), and 0.9% I. Similar runs using different catalysts gave varying compns., e.g., Al2O3-SiO2 mixt. gave 90.6% II and 9.4% III with 100% conversion, whereas CeO2 gave 59.1% II, 30.6% III, and 10.3% unreacted I at 92% conversion. Other catalyst were ZBM-11 boron zeolite, ZSM-11 zeolite, Al2O3, and an Al2O3-CeO2 mixt.

ST aminopropionitrile; propionitrile amino; ammonia addn acrylonitrile metal oxide catalyst; zeolite catalyst addn ammonia acrylonitrile

IT Zeolites, uses
RL: USES (Uses)
(ZBM-11, catalysts, for addn. of ammonia to acrylonitrile)

IT Zeolites, uses
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for addn. of ammonia to acrylonitrile)

IT Addition reaction catalysts
(metal oxides and zeolites, for ammonia with acrylonitriles)

IT Addition reaction
(of ammonia with acrylonitriles)

IT Zeolites, uses
RL: CAT (Catalyst use); USES (Uses)
(ZSM 11, catalysts, for addn. of ammonia to acrylonitrile)

IT 107-13-1, Acrylonitrile, reactions 126-98-7, 2-Methylacrylonitrile 7664-41-7, Ammonia, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(addn. of ammonia to acrylonitriles, metal oxide or zeolite catalysts for)

IT 111-94-4, Bis(2-cyanoethyl)amine
RL: RCT (Reactant); RACT (Reactant or reagent)
(byproduct, in prepn. of aminopropionitriles by addn. of ammonia to acrylonitriles)

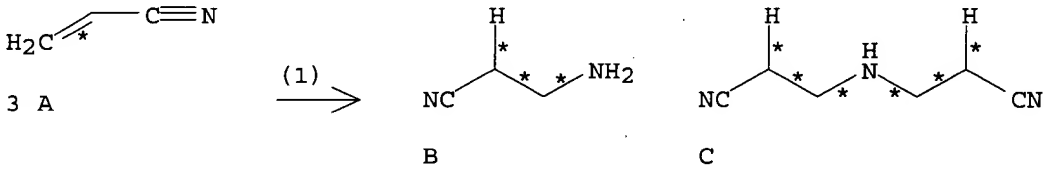
IT 107-95-9, .beta.-Alanine 109-76-2, 1,3-Propylenediamine
RL: RCT (Reactant); RACT (Reactant or reagent)
(intermediate for, improved prepn. of aminopropionitrile as)

IT 1303-86-2, Boron oxide, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses
RL: USES (Uses)
(metal oxide or zeolite catalysts, for addn. of ammonia to acrylonitriles)

IT 11129-18-3, Cerium oxide
RL: RCT (Reactant); RACT (Reactant or reagent)
(metal oxide or zeolite catalysts, for addn. of ammonia to acrylonitriles)

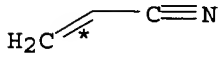
IT 96-16-2 151-18-8, 3-Aminopropionitrile
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of aminopropionitriles by addn. of ammonia to acrylonitriles)

RX(1) OF 6 3 **A** ===> B + C



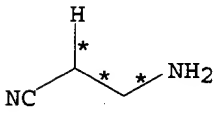
RX(1) RCT A **107-13-1**
RGT D **7664-41-7** NH3
PRO B 151-18-8, C 111-94-4
CAT 7631-86-9 SiO2
NTE 90.degree., 180 bar, 99% conversion, 85% monoadduct, 13% bisadduct

RX(2) OF 6 3 **A** ===> B + C

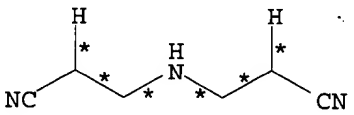


3 A

(2) →



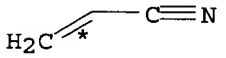
B



C

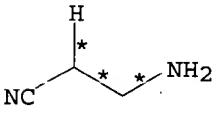
RX(2) RCT A **107-13-1**
RGT D **7664-41-7** NH3
PRO B 151-18-8, C 111-94-4
CAT 1344-28-1 Al2O3, 11129-18-3 Cerium oxide
NTE 50.degree., 200 bar, >99% conversion, 77% monoadduct, 22% bisadduct

RX(3) OF 6 3 **A** ===> B + C

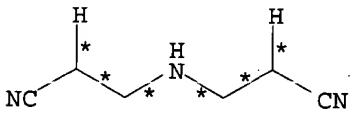


3 A

(3) →



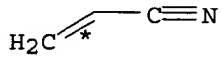
B
YIELD 100%(91)



C
YIELD 100%(9)

RX(3) RCT A **107-13-1**
RGT D **7664-41-7** NH3
PRO B 151-18-8, C 111-94-4
CAT 7631-86-9 SiO2, 1344-28-1 Al2O3
NTE 90.degree., 180 bar, 100% conversion

RX(4) OF 6 3 **A** ===> B + C



3 A

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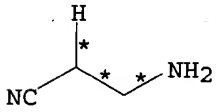
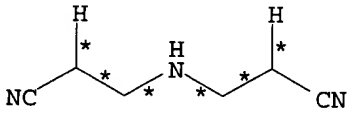


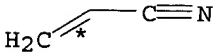
B



C

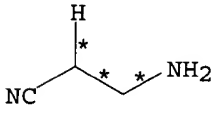
RX(4) RCT A **107-13-1**
RGT D **7664-41-7** NH3
PRO B 151-18-8, C 111-94-4
CAT 7631-86-9 SiO2, 1303-86-2 B2O3
NTE 130.degree., 180 bar, as ZBM-11 catalyst, 94% conversion, 85% monoadduct, 14% bisadduct

RX(5) OF 6 3 **A** ===> B + C

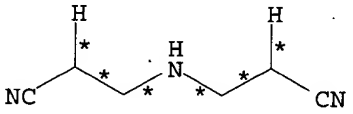


3 A

(5) →



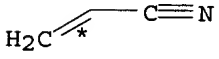
B



C

RX(5) RCT A **107-13-1**
RGT D **7664-41-7** NH3
PRO B 151-18-8, C 111-94-4
CAT 7631-86-9 SiO2, 1344-28-1 Al2O3
NTE 110.degree., 180 bar, as ZSM-11 catalyst, 97% conversion, 80% monoadduct, 15% bisadduct

RX(6) OF 6 3 **A** ===> B + C



3 A

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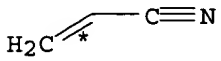
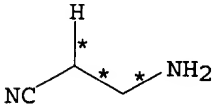
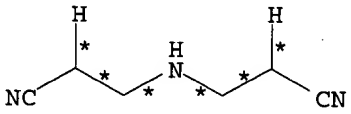


3 A

(6)



B



C

RX(6) RCT A **107-13-1**
RGT D **7664-41-7** NH3
PRO B 151-18-8, C 111-94-4
CAT 11129-18-3 Cerium oxide
NTE 90.degree., 200 bar, 92% conversion, 59% monoadduct, 31% bisadduct

L4 ANSWER 3 OF 3 CASREACT COPYRIGHT 2003 ACS
AN 118:80505 CASREACT
TI Preparation of .alpha.,.beta.-unsaturated nitriles
IN Ishii, Kanji; Murotani, Hiroaki
PA Asahi Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C07C255-08
ICS C07C253-18; C07C253-24
CC 23-19 (Aliphatic Compounds)
Section cross-reference(s): 47
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04202171	A2	19920722	JP 1990-329901	19901130
	JP 06076366	B4	19940928		
PRAI	JP 1990-329901		19901130		

AB Acrylonitrile was prepd. in 78.2% yield by feeding air 9,100 Nm3/h, propylene of 96% purity 1,000 Nm3/h, and NH3 1,150 Nm3/h into the above **reactor** packed with 25 tons of a fluidized bed of a Mo-Bi-Fe catalyst and reacting them at 470.degree.. An app. for this purpose is described in detail.

ST unsatd nitrile prepn; propylene isobutylene oxidative cyanation ammonia; butyl alc oxidative cyanation ammonia; app unsatd nitrile prepn

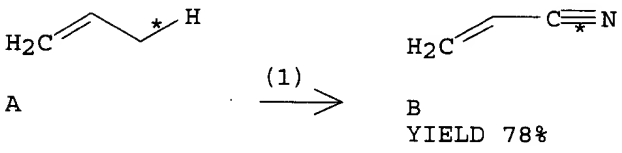
IT Alkenes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidative cyanation of, with ammonia and oxygen)

IT Cyanation
(oxidative, of propylene, isobutylene, or tert-Bu alc. with ammonia, app. for)

IT Nitriles, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(.alpha.,.beta.-unsatd., prepn. of, by oxidative cyanation of olefins

or tert-Bu alc. with ammonia)
IT 7439-89-6, Iron, uses 7439-98-7, Molybdenum, uses 7440-69-9, Bismuth, uses
RL: CAT (Catalyst use); USES (Uses)
(catalyst contg., for oxidative cyanation of olefins and tert-Bu alc. with ammonia)
IT 74-90-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyanation, oxidative, of propylene, isobutylene, or tert-Bu alc. with ammonia, app. for)
IT 7782-44-7, Oxygen, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidative cyanation by ammonia and, of propylene)
IT 7664-41-7, Ammonia, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidative cyanation by oxygen and, of propylene and isobutylene)
IT 75-65-0, tert-Butyl alcohol, reactions 115-07-1, Propylene, reactions 115-11-7, Isobutylene, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidative cyanation of, with ammonia)
IT 107-13-1P, Acrylonitrile, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, by oxidative cyanation of propylene with ammonia)

RX(1) OF 1 **A** ===> **B**



YIELD 78%

RX(1) RCT A **115-07-1**
RGT C 7782-44-7 O2, D **7664-41-7** NH3
PRO B **107-13-1**
CAT 7439-98-7 Mo, 7440-69-9 Bi, 7439-89-6 Fe
NTE 470.degree., fluidized bed **reactor**